

Appendix 2

All Grants Other Than NSF COSEE Awards



Table of Contents

COSEE California.....	3
COSEE West	11
COSEE Central Gulf of Mexico.....	15
COSEE SouthEast	18
COSEE Ocean Learning Communities	20
COSEE Great Lakes.....	24
COSEE Ocean Systems.....	26
COSEE Pacific Partnerships	30
COSEE Coastal Trends.....	31
COSEE Networked Ocean World.....	32
COSEE Central Coordinating Office	36

Grants Other Than NSF COSEE Center Grants

This section lists grants that have been awarded to the individual COSEE Centers, either from NSF or other agencies that have augmented the basic Center funding. These additional awards have allowed the Centers to expand their work or collaborate with other Centers or other scientific and education partners and networks.

COSEE California

PI:	Peter Tuddenham (College of Exploration), Mary Casanova (Literacy Volunteers of America), Mary Tagliareni (NOAA Florida Keys National Marine Sanctuary)
Source:	NOAA Office of Education
Amount:	
Total Award Period:	10/01/10 – 9/30/12
Title:	The Literacy Volunteers of America (LVA) Environmental Literacy Project
Description:	This informal education grant relates to the ocean literacy work and web site resources (that are ongoing with College of Exploration's COSEE-CA work) and partners the College of Exploration with Monroe County, FL Literacy Volunteers of America and Florida Keys National Marine Sanctuary and other South Florida NOAA organizations in using the Ocean Literacy principles and concepts for building awareness of ocean, climate and environmental topics, while helping ESL adults learn English and use new Web 2.0 technologies through experiential learning activities.
PI:	Craig Strang, Emily Weiss
Source:	NSF, Geosciences Directorate GeoEd Program
Amount:	\$125,000
Total Award Period:	9/15/10 – 8/31/12
Title:	Youth & the Ocean: Teaming High School & Graduate Students Together for Coastal Investigations
Description:	This project leverages the NSF Opportunities for Enhancing Diversity in the Geosciences (OEDG)-funded project, Reducing Barriers to Academic Achievement & Marine Geosciences Careers: Developing a Model Middle School Program Integrating Marine Geosciences & Literacy, by maintaining continuity with middle school students involved in the project as they enter their high school years. This two-year pilot project will develop a model inquiry-based geoscience education program to engage underrepresented high school students in a long-term intertidal monitoring

project and a related weeklong, inquiry-based residential research program facilitated by graduate student mentors.

PI: June Foster (Education Development Center), Ruth Krumhansl (Education Development Center) and Cheryl Peach
Source: NSF, Education and Human Resources Directorate, DR K12
Amount: \$449,745
Total Award Period: 9/01/10 – 8/31/12
Title: Collaborative Research: Oceans of Data - What is Needed to Support Students' Learning with Large Scientific Databases?
Description: This DR K-12 Exploratory Project conducted by Education Development Center, Inc.(EDC) and The Scripps Institution of Oceanography (Scripps) will address the question: In what ways can research on learning inform the design of interfaces and technology tools to be used by students accessing large scientific data bases? This project is an outgrowth of COSEE CA involvement in the Ocean Observatories Initiative.

PI: Cheryl Peach
Source: NSF
Amount: \$10,000
Total Award Period: 09/01/10 – 08/31/12
Title: Supplement to California Center for Ocean Science Education Excellence
Description: This supplement supports the additional time spent by COSEE California PI Cheryl Peach to plan the Community Meeting and to serve as COSEE Council Chair in 2011-2012

PI: Catherine Halversen
Source: The California Coastal Commission Whale Tail Competitive Grants Program
Amount: \$26,605
Total Award Period: 5/01/2010 – 12/31/2011
Title: *Youth Experiencing the Ocean: Field-Based Explorations in Ocean Sciences.*
Description: This project built upon an ongoing program with Oakland Unified School District, providing three types of field trip experiences for teachers, students, and their families: 1) teacher professional development about marine resources and field trip opportunities; 2) weekend field explorations for students in grades 6–11 and their families; 3) five-day hands-on SF Bay Explorers Camp for students in grades 6–11.

PI: Craig Strang, Catherine Halversen, Jacquely Barber
Source: NOAA Environmental Literacy Grant
Amount: \$750,000
Total Award Period: 01/01/10 – 01/01/13
Title: Ocean Sciences Curriculum Sequence for Grades 6–8

Description:	This award funds the development of the second in a series of ocean sciences curriculum sequences, which will offer comprehensive coverage of the Principles and Concepts contained in the guide <i>Ocean Literacy: The Essential Principles of Ocean Sciences K–12</i> for this grade band.
PI:	Craig Strang, Jacquely Barber, Catherine Halversen
Source:	NOAA Environmental Literacy Grant
Amount:	\$10,500
Total Award Period:	01/01/10 – 01/01/11
Title:	Supplement to the Ocean Sciences Curriculum Sequence for Grades 3–5
Description:	This award is a supplement to continue development through enhanced assessments of the ocean sciences curriculum sequence for grades 3–5, which offers comprehensive coverage of the Principles and Concepts contained in the guide <i>Ocean Literacy: The Essential Principles of Ocean Sciences K–12</i> for this grade band.
PI:	Catherine Halversen, Lynn Uyen Tran, Gretchen Walker
Source:	Institute for Museum and Library Studies (IMLS)
Amount:	\$313,000
Total Award Period:	11/01/09 – 11/01/11
Title:	Museum Educators Reflecting On Practice
Description:	This project builds the capacity of mid-career informal educators at museums, aquariums, science centers, and other informal environments, through ongoing study of science pedagogy in museums and reflective practice.
PI:	Catherine Halversen, Craig Strang, Lynn Uyen Tran
Source:	NSF, Informal Science Education Program
Amount:	\$2,900,000
Total Award Period:	10/01/09 – 10/01/13
Title:	Communicating Ocean Sciences Informal Education Network (COSIEN)
Description:	This project establishes Regional Communicating Ocean Sciences to Informal Audiences (COSIA) Centers, at inland and coastal locations, to build communities and take advantage of the substantive, long-term partnerships between the informal science institutions and universities created in the original COSIA project.
PI:	Cheryl Peach
Source:	NSF
Amount:	\$81,829
Total Award Period:	09/01/09 – 08/31/11
Title:	Collaborative Research: Linking Researchers and Graduate Students through COSEE Tools & Services
Description:	This award provides funds to conduct workshops aimed at improving the broader impacts efforts of scientists. Through professional development

workshops, scientist-graduate student teams will produce interactive materials based on the Ocean Literacy and Climate Literacy principles that can be specifically designed for a variety of audiences. The primary target audiences for this project are the research scientists and graduate students who participate in the project workshops.

- PI: Hubertus Staudigel, Cheryl Peach, Lisa Tauxe and Anthony Haymet
 Source: NSF, EHR Division of Graduate Education, GK12
 Amount: \$ 2,988,411
 Total Award Period: 04/01/09 – 03/31/14
 Title: Scripps Classroom Connection: Developing a School District/Research Institution Partnership In Earth System Science Education
 Description: The Scripps Classroom Connection (SCC) aims to systemically and simultaneously improve communication skills of Earth science (ES) graduate students and K-12 Earth sciences education at the San Diego Unified School District (SDUSD). The SCC is based on a close collaboration between Scripps Institution of Oceanography, a world-class research institute in Earth and ocean science, and the SDUSD, the 8th largest urban school district in the US, with the guidance of professionals from the UCSD education science department. This project was born out of the COSEE CA partnership with San Diego Unified School District.
- PI: Patricia Cooper, Clyde Sakamoto, Kanesa Duncan, Craig Strang
 Source: NSF, Geosciences Directorate, Ocean Sciences Division for a New Collaboration with an Existing COSEE
 Amount: \$150,000
 Total Award Period: 7/1/08 – 6/30/11
 Title: Pacific Ocean Literacy for Youth, Publics, Professionals and Scientists (POLYPPS)
 Description: This New Collaboration grant serves both to coalesce the ocean sciences and education organizations in Hawaii, and to spread the implementation of Communicating Ocean Sciences college courses throughout the Pacific.
- PI: Craig Strang, Catherine Halversen, Cheryl Peach, Nigella Hillgarth, John Orcutt, Peter Tuddenham,
 Source: NSF, Geosciences Directorate, Ocean Sciences Division
 Amount: \$2,600,000
 Total Award Period: 9/1/07 – 8/31/12
 Title: Centers for Ocean Sciences Education Excellence—California
 Description: This award provides continuation funding for COSEE California, and funds three significant initiatives: 1) The Ocean Literacy Campaign, 2) Dissemination of the Communicating Ocean Sciences courses, and 3) Teaching Tools for the 21st Century.
- PI: Craig Strang, Jacquely Barber, Catherine Halversen

Source: NOAA, Environmental Literacy Grant
Amount: \$730,000
Total Award Period: 07/01/07 – 06/30/10
Title: Ocean Sciences Curriculum Sequence for Grades 3–5
Description: This grant funded the development of an ocean sequence which offers comprehensive coverage of the Principles and Concepts contained in the guide: Ocean Literacy: The Essential Principles of Ocean Sciences K–12 for this grade band.

PI: John Orcutt, Frank Vernon, (Cheryl Peach Education Lead)
Source: UCSD
Amount: \$1,071,682
Total Award Period: 6/3/07-2/28/14
Title: Cyberinfrastructure for the Ocean Observatory Initiative – Education and Public Awareness
Description: These are matching contributions made by UCSD to support education and outreach for the Ocean Observatories Initiative Cyberinfrastructure Implementing Organization. COSEE CA provided guidance on the development of the OOI CI education plan.

PIs: Cheryl Peach, Wolf Berger and Geno Flores
Source: San Diego Unified School District
Amount: \$ 75,000
Total Award Period: 04/01/07 – 03/31/08
Proj/Proposal Title: Memorandum of Understanding in Earth Sciences Education
Description: In an MOU signed in April 2007, COSEE CA (through SIO) established a formal agreement with SDUSD to provide online ocean and Earth sciences resources in support of teaching ocean literacy principles in SDUSD middle and high school classrooms. This was part of a longer-term partnership established between SDSUSD and Scripps through COSEE CA.

PI: Catherine Halversen
Source: Dept. of Education’s Magnet Schools Assistance Program (MSAP) subaward
Amount: \$160,000
Total Award Period: 01/01/07 – 01/01/10
Title: Implementation of MARE in New York City Region Six Schools
Description: This award supported the implementation of the MARE Ocean Immersions program by the New Jersey MARE Center, a Summer Academy for teachers and students, professional development for teachers at our MARE Summer Institute, and training and materials for educators and scientists to implement the Communicating Ocean Sciences course at Brooklyn College

2011 COSEE Decadal Review

PI: Catherine Halversen, Craig Strang
Source: NSF, Geosciences Division, Opportunities for Enhancing Diversity in Geosciences (OEDG)
Amount: \$1,400,000
Total Award Period: 01/01/07 – 12/31/10
Title: Reducing Barriers to Academic Achievement & Marine Geosciences Careers: Developing a Model Middle School Program Integrating Marine Geosciences & Literacy
Description: This award funded a project to work with Oakland Unified School District providing myriad and on-going opportunities for teachers and underserved middle school students to participate in marine geosciences activities.

PI: Catherine Halversen, Craig Strang
Source: NSF, Informal Science Education Program
Amount: \$1,836,576
Total Award Period: 3/01/06 – 2/28/09
Title: Communicating Ocean Sciences to Informal Audiences (COSIA)
Description: This grant funded the development of a college course that prepares science undergraduate and graduate students to teach ocean sciences to the public in free choice settings such as aquariums, museums and science centers. The course is now taught in XX university/science center partnerships across the country.

PI: Lawrence Franks, Philip Hastings, Cheryl Peach, Anthony Gamst
Source: NSF, Directorate for Biological Sciences, Advances in Bioinformatics
Amount: \$ 2,465,063
Total Award Period: 6/01/05 – 10/31/07
Title: Digital Fish Library
Description: The University of California at San Diego was awarded a grant to digitize a representative sample of the Marine Vertebrates Collection (MVC) at the Scripps Institution of Oceanography (SIO), among the largest and most comprehensive collections of its kind in the world. It has created a significant research resource for many scientists and also an educational resource for middle and high-school science students. COSEE CA provided the large scale broader impact component for this proposal.

PI: Craig Strang
Source: NSF
Amount: \$10,000
Total Award Period: 01/01/04 – 12/31/05
Title: Supplement to California Center for Ocean Science Education Excellence
Description: This supplement supported the additional time spent by COSEE California PI/Director in building the National COSEE Network. Strang was elected by peers as the founding Chair of the National COSEE Council.

PI: Cheryl Peach, Graham Kent and Deborah Kilb
 Source: NSF, Geosciences Directorate, GeoEd Program
 Amount: \$163,518
 Total Award Period: 11/01/03 – 10/31/07
 Title: Visualization in Earth and Ocean Sciences: Exploring the use of Immersive Visualization Technology in Informal Science Education
 Description: This project explored ways to combine cutting edge visualization technology, large-scale databases, and current scientific research to create public and school programs for interactive science centers. The collaboration between a leading research institution and a public outreach organization is being carried out at the University of California San Diego's Scripps Institution of Oceanography and the Birch Aquarium. This project grew out of the COSEE CA objective to link research and education.

PI: Craig Strang, Roberta Dean, Cheryl Peach, Deirdre Sullivan
 Source: NSF
 Amount: \$2,500,000
 Total Award Period: 10/01/02 – 9/30/07
 Title: California Center for Ocean Science Education Excellence
 Description: This award established a new Center with Lawrence Hall of Science as the lead agency, followed by Scripps Institution of Oceanography, Monterey Peninsula College, and California Sea Grant. The Center had four initiatives: 1) engage scientists in education; 2) Develop Communicating Ocean Sciences college course; 3) Develop an ocean careers web site, and 4) Develop a MARE Center at SIO.

PI: Judith Lemus, Patricia Cooper, Clyde Sakamoto, Kanesa Duncan, Florence Thomas
 Source: NSF, Geosciences Directorate, Ocean Sciences Division
 Amount: \$2,842,668
 Total Award Period: Pending
 Title: COSEE Island Earth
 Description: COSEE IE engages a broad base of collaborators in the private sector, state and federal government, formal and informal education to build a collaborative network that connects ocean research and teaching with traditional knowledge in order to facilitate active engagement in stewardship by all ocean users. The objectives are to (1) Establish a state-wide hub for the purpose of matching the interests and needs of research scientists with those of education and outreach community; (2) Connect modern research, traditional knowledge, and ocean policy; (3) Enhance the science and ocean literacy of our island and visitor populations; (4) Expand the COSEE Network to Western Pacific island nations.

PI: Judith Lemus, Florence Thomas, Kathleen Ruttenberg

2011 COSEE Decadal Review

Source:	NSF, Geosciences Directorate, Opportunities for Enhancing Diversity in the Geosciences
Amount:	\$197,855
Total Award Period:	8/01/09 – 7/30/12
Title:	Laulima A ‘Ike Pono – Community Collaborations in Geosciences and Place-based Education.
Description:	This is a community-based research and education partnership that integrates research on the biogeochemistry and ecology of Native Hawaiian Fishponds with community education and career training.
PI:	Barbara Bruno and Judith Lemus
Source:	NSF, Geosciences Directorate, Opportunities for Enhancing Diversity in the Geosciences
Amount:	\$197,278
Total Award Period:	07/01/09– 06/30/12
Title:	OceanFEST – Families Experiencing Science Together
Description:	This project engages elementary school students, parents, teachers, and administrators in Ocean FEST (Families Exploring Science Together) family science nights based on a proven model.
PI:	Virginia Weis, Patrick Chappell, Jody Schwarz, Judith Lemus, Ruth Gates
Source:	NSF, EARly-concept Grants for Exploratory Research
Amount:	\$299,926
Total Award Period:	07/01/10– 06/30/12
Title:	EAGER: Building networks and study systems to advance research on the biology of Pacific corals
Description:	This project initiates an international partnership to build a network focused on coral biology and preservation, and provide training to young scientists in international collaboration, education outreach, and cultural sensitivity.
PI:	Kanesa Duncan Seraphin, Paul Brandon, Thanh Truc Nguyen
Source:	US Department of Education, Institute of Education Science
Amount:	\$1,490,000
Total Award Period:	03/01/10 – 02/28/13
Title:	Accessible Professional Development for Teaching Aquatic Science Inquiry
Description:	The purpose of this study is to develop and evaluate a four-part series of professional development modules in aquatic science that consist of in-person trainings coupled with online learning support.

COSEE West

PI:	Linda Duguay
Source:	Boeing Corporation Foundation.
Amount:	\$10,000.
Total Award Period:	1/11 – 1/12.
Title:	Boeing Teacher Workshops
Description:	Funding in support of teacher stipend for a series of five COSEE-West lectures and workshops. First one held January 26, 2011 in collaboration with JPL.
PI:	Linda Duguay
Source:	NSF, Ocean Sciences
Amount:	\$18,000 supplement
Total Award Period:	9/10 – 10/12.
Title:	Supplement to COSEE Center Award
Description:	Supports the evaluation work of COSEE evaluator Patricia Kwon on the Decadal Review and Linda Duguay to serve as COSEE Council Chair
PI:	Linda Duguay
Source:	California Math & Science Partnership, State of CA.
Amount:	\$168,000.
Total Award Period:	1/2010 – 9/2013.
Title:	Los Angeles Charter School Science Partnership (LACSSP).
Description:	Provides support for Dr. Linda Duguay, Linda Chilton, and Lynn Whitley to engage USC scientists to work with Charter School teachers to improve teachers science content and provide inquiry based experiences at the Catalina Island Laboratory of the Wrigley Marine Science Center. Charter school teachers participate in COSEE-West activities.
PI:	Linda Duguay
Source:	NSF. Ocean Sciences
Amount:	\$65,000
Total Award Period:	9/09 – 8/11
Title:	Collaborative Research: Linking Researchers and Graduate Students through COSEE Tools and Services, In collaboration with proposals 0943448, Annette V. deCharon, University of Maine, Orono 0943411, Cheryl L. Peach, UC, San Diego Scripps Inst. of Oceanography 0943430, Janice McDonnell, Rutgers, The State University of New Jersey
Description:	Projects support workshops at the 4 institutions to develop skills at Concept Mapping as a means of conceptualizing Ocean Science Research. Workshops involve ocean researchers, graduate students primarily.

PI: Linda Duguay
 Source: State of California, Ocean Protection Council (OPC)
 Amount: \$200,000/year
 Total Award Period: 2007 - current.
 Title: Research Project Awards
 Description: Special funds in support of additional USC Sea Grant Research Programs that support the goals and research of the OPC. Most research projects involved education and outreach to stakeholder groups in California

PI: Linda Duguay
 Source: US Fish & Wildlife
 Amount: \$49,996.
 Total Award Period: 2007 – 2008
 Title: Implement Priorities in the National Management Plan for the Genus *Caulerpa*
 Description: In support of work of extension agent, Ms. Susan Zaleski. Provided education and outreach to aquarist shops and teachers – provided to COSEE West teachers.

PI: Linda E. Duguay and Anthony F. Michaels,
 Source: NSF Ocean Sciences
 Amount: 200,490
 Total Award Period: 6/06-5/10
 Title: REU Site: Geobiology - Marine Science at the Interface between the Life and Earth Sciences.
 Description: Research Experience for undergraduate at the USC main and Catalina campuses, Participated in COSEE enrichment activities.

PI: Judy Lemus, transferred to Myrna Jacobsen Meyers.
 Source: NSF. subcontract from COSEE-California, Lawrence Hall of Science.
 Amount: \$54,000.
 Total Award Period: 6/06 – 6/08, 6/09 – 6/11
 Title: Communicating Ocean Science to Informal Audiences.
 Description: Collaboration with the Aquarium of the Pacific. A team taught course by the PI's at USC and AOP for graduate students in how to deliver Ocean programs to the public at an aquarium.

PI: Peter Tuddenham
 Source: NOAA/Office of Ocean Exploration
 Amount: \$45,000.
 Total Award Period: 7/06 – 7/07.
 Title: Master Teacher Video Series.

Description: Online videos series in support of NOAA Master Teachers.

PI: Peter Tuddenham.

Source: National Geographic

Amount: \$10,000.

Total Award Period: 12/06 – 6/07.

Title: Teacher Workshop on Fisheries.

Description: Develop online workshop for teachers on fisheries research for National Geographic programs.

PI: Kristina Bishop.

Source: Consortium for Oceanographic Research and Education (CORE)

Amount: \$45,000.

Total Award Period: 12/06 – 6/07.

Title: National Ocean Science Bowl. 6/06 – 4/08.

Description: Ocean Science competition for high school teams.

PI: Anthony Michaels, Judy Lemus.

Source: Southern California Edison,

Amount: \$1,000,000.

Total Award Period: 6/06-5/10

Title: Edison Challenge. .

Description: Established an environmental science challenge program for middle and high school students.

PI: Anthony Michaels, Judy Lemus.

Source: QuikSilver Foundation,

Amount: \$1,250,000.

Total Award Period: 10/03 – 9/08

Title: QuikSCience Partnership.

Description: Established an ocean science competition for middle and high school students and provided recognition award for teachers engaged in ocean education.

PI: Anthony F. Michaels, Linda E. Duguay,

Source: NSF Ocean Sciences

Amount: \$151,680

Total Award Period: 3/03 – 2/07.

Title: "REU Site: Geobiology - Marine Science at the Interface between the Life and Earth Sciences."

Description: Research experience for undergraduates at USC main and Catalina campuses. Participated in COSEE enrichment activities.

PI: Linda Duguay

2011 COSEE Decadal Review

Source: NOAA,
Amount: \$980,000/year with 2:1 matching funds provided by USC
Total Award Period: 2002 – present
Title: USC Sea Grant Program, Core Funding for the Urban Ocean.
Description: Provides salary support for Linda Duguay, Sea Grant educators Whitley and Chilton, and outreach/extension staff Grifman, Zaleski, and Fawcett who have all participated in COSEE-West programs through the years.

PI: Linda Duguay
Source: State of California. Resources Agency,
Amount: \$43,000/year.
Total Award Period: 2002- present
Title: Sea Grant Advisory Program (RASGAP).
Description: Awarded annually in support of USC Sea Grant Research Projects funded
Provides a portion of the matching funds for the USC Sea Grant Program
Funded scientists have participated in COSEE-West programs

PI: Linda Duguay
Source: NOAA, USC Sea Grant Program
Amount: 42,000/year
Total Award Period: 2002 - present
Title: Knauss Fellowships
Description: Program has supported 1 to 3 graduate students/year from USC and other California Institutions to participate in Federal Offices either Executive or Congressional. Provides advanced graduate students an opportunity to participate in ocean related programs in the Federal Government. Several Fellows have been active participants in the COSEE-West program.

PI: William Hamner.
Source: NSF/ESI
Amount: \$449,295.
Total Award Period: 09/02 - 10/07
Title: GLOBE in the Urban Environment.
Description: Provided additional support in terms of stipends for teachers participating in COSEE-West.

COSEE Central Gulf of Mexico

PI: Sharon Walker
 Source: Department of the Navy-Naval Oceanographic Office
 Amount: In kind Support
 Total Award Period: 2002 -2011
 Title: Teachers at Sea
 Description: The Naval Meteorology and Oceanography Command (NAVMETOCOM) and the Naval Oceanographic Office (NAVOCEANO) provide a survey ship for the Sea Scholars voyages. Mr. Marcus Jarrett, Senior Navy Representative, for the Sea Scholars Program, has coordinated the implementation of the Sea Scholars voyages from 2002-2011, depending on the national defense needs of this country. From 2002 through 2005, we actually made two or three voyages annually. Since in 2006, only one voyage was implemented due to defense needs of the U.S. in other countries as a result of the wars in Afghanistan and Iraq. Mr. Jarrett is also an instructor on the voyage, as is Dr. Sharon Walker and other NAVMETOCM and NAVOCEANO staff members. This U.S. Navy/COSEE partnership supports our mission by engaging oceanographic surveyors and the 14 COSEE educators for seven to 14 days per voyage.

PI: Sharon Walker
 Source: NOAA-OE/National Marine Sanctuary Foundation (NMSF)
 Amount:
 Total Award Period: 2005 – 2006
 Title: NOAA Ocean Exploration Teacher Workshops
 Description: In 2005 the COSEE: PI and Scientist received funding for the implementation of four NOAA-Ocean Exploration Teacher Workshops. The two *NOAA Ocean Exploration Gulf of Mexico Deep Scope Expedition Workshops* were implemented February 6, and May 29, 2006; the *NOAA Ocean Exploration Gulf of Mexico Deepwater Workshops* was implemented July 21 and September 21, 2006. These Workshops have supported COSEE CGOM's mission and goals in two of its three thematic topics, i.e., habitats and organisms and marine technology, as well as engagement of scientists and educators.

PI: Sharon Walker, Shelia Brown, and Kay Baggett
 Source: NOAA- OE/National Marine Sanctuary Foundation (NMSF)
 Amount:
 Total Award Period: 2003
 Title: NOAA-Ocean Exploration Workshop
 Description: Two Hydrothermal Vent Workshops in the Gulf of Mexico involving approximately 40 precollege teachers. These Workshops have supported

COSEE CGOM's mission and goals in two of its three thematic topics, i.e., habitats and organisms and marine technology, as well as engagement of scientists and educators.

PI: Sharon Walker
Source: NSF's GLOBE (Global Learning and Observations to Benefit the Environment) Project, the Mineral Management Service, and NOAA.
Amount:
Total Award Period: 2009
Title: FLEXE: GLOBE: From Local to Extreme Environments Workshop
Description: Collaboration with Penn State Univ. (Dr. Liz Goehring), for enhanced scientist engagement and Professional Development for educators. Shelia Brown coordinated the 2 day workshop. Partners included Pennsylvania State University, Temple University, the University of Southern Mississippi, and COSEE CGOM. This effort supports the mission of COSEE CGOM by involving scientists and educators working together, to include the scientists providing research data to educators (formal and informal) who in turn, impart this information to their students and/or the public.

PI: Sharon Walker transferred to Jessica Kastler
Source: NSF, Ocean Sciences, American Recovery and Reinvestment Act (ARRA)
Amount:
Total Award Period: 2010 -2012
Title: Enhanced Engagement by Scientists for Broader Societal Impacts
Description: A National COSEE Network (NCN) project. Objectives are: 1) assemble representatives of all COSEE and the Central Coordinating Office (CCO) as a new Scientist Engagement Working-Group (SEW-G) to consider NCN methods of promoting scientists education and outreach (E/O) efforts and 2) facilitate access to information for scientists seeking to build their E/O efforts, specifically to produce a searchable web database of programs offered by each Center. These "case studies" (one from each Center) are being placed on the COSEE Network website as they are produced and approved, thereby describing and documenting how exemplary scientists use COSEE efforts to develop model E/O programs for broader societal impacts.

PI: Jessica Kastler, Christopher Snyder, Brian McCann
Source: NSF RAPID funds for Gulf of Mexico Oil Spill work
Amount:
Total Award Period: 2010 -2012
Title: Responsive Oil Spill Outreach Based in Science,
Description: The RAPID grant complements the fifth year, revised COSEE CGOM effort. The award includes production of 1) three television broadcasts of roundtable discussions among scientists introduced by two or three video

segments addressing specific oil spill themes; and 2) a moderated website (SpillScience.com) that provides interviews with scientists, questions and answers, blogs, and annotated resources regarding the oil spill. The website, SpillScience.com, will link COSEE CGOM and RAPID activities. Oil spill, multimedia resources will be posted to the COSEE CGOM website, www.cosee-central-gom.org and linked to a specific box on the SpillScience.com home page and will also be made available to the National COSEE Network, as well as any other interested formal and informal educators, scientists, and/or members of the general public.

COSEE SouthEast

PI: Carrie Thomas; Lundie Spence
Source: NSF Ocean Sciences (1005602)
Amount:
Total Award Period: 4/01/2010 03/31/2011
Title: Collaboration for Broadening Participation in Ocean Sciences
Description: This award supports the diversity efforts of COSEE SE and engages initiatives on a regional basis. A December 9-10 collaborative workshop introduced people from universities, federal agencies and state agencies under this theme.

PI: Lundie Spence
Source: NOAA Office of Marine Debris (NA09NMF463005)
Amount:
Total Award Period: 2009-2011
Title: Marine Debris and Abandoned Vessels: Identification, Reduction and Prevention through Community-based Education and Action.
Description: This award connected COSEE SE with state agencies, media and educators. It extended into a three COSEE, 6 state effort.

PI: Lundie Spence
Source: NOAA CSC through NOAA Office of Sea Grant
Amount:
Total Award Period: 2008 -2010
Title: Initiatives for diversity and STEM association with ocean observing.
Description: This award supported diversity efforts in a wide range, including scholarships for professional conferences to minorities.

PI: L Spence
Source: SC DHEC and NOAA Office of Marine Debris
Amount:
Total Award Period: 2008-2009
Title:
Description: This award connected COSEE SE with state agencies, media and educators.

PI: Jennifer Cash, co-PIs L. Spence, and L Leaphart
 Source: NSF OEDG (07037020)
 Amount:
 Total Award Period: 09/01/2007 08/31/2010
 Title: OEDG Standard Grant Track 1: Enhancing Diversity in the Geosciences: Mentoring and Research Modeling for Middle School and University Students.
 Description: This award enabled COSEE SE to coordinate a three level diversity program and introduction to ocean sciences to undergraduates at HBCU and middle school students; and engage scientists directly with students and provide insight to the nature of science.

PI: Rick Devoe, subaward to L. Spence
 Source: NOAA CSC and IOOS
 Amount:
 Total Award Period: 2006-2010
 Title: SECOORA - Regional Ocean Observing System
 Description: This award connected COSEE SE to the regional coastal ocean observing system as one of its outreach partners

PI: PI Jack Thigpen, RH Bacon; L. Spence, S. Van Cooten.
 Source: NOAA OAR
 Amount:
 Total Award Period: 2003-2010
 Title: CI-FLOW Education and Extension
 Description: This award connected COSEE SE to modelers, extension scientists and flood control research. COSEE SE assisted with outreach strategies.

PI: Harvey Seim, UNC-CH (subaward: L. Spence Education and Outreach)
 Source: Office of Naval Research.
 Amount:
 Total Award Period: 2003-2005
 Title: SEACOOS
 Description: This award connected COSEE SE to the regional coastal ocean observing system as one of its outreach partners

COSEE Ocean Learning Communities

Federal

PIs:	Richard Keil & Philip Bell
Source:	NSF
Amount:	\$172,618
Total Award Period:	08/15/09 – 7/31/11
Title:	OEDG: SoundCitizen Science Apprenticeship Program for Minority Youth (Track 1)
Description:	This award encourages minority involvement in COSEE and SoundCitizen.
PI:	Richard Keil
Source:	EPA - Pending
Amount:	\$360,779
Total Award Period:	07/01/10 – 06/30/12
Title:	SoundCitizen: Working together to save Puget Sound
Description:	SoundCitizen is the citizen-science arm of COSEE and is independently funded. This grant helps us work with local agencies on problems of local interest.
PI:	Richard Keil
Source:	Washington Sea Grant
Amount:	\$204,583
Total Award Period:	02/01/10 – 01/31/12
Title:	SoundCitizen: Students and Citizens Working Together to Evaluate Sources and Fates of Emerging Pollutants in Puget Sound
Description:	SoundCitizen is the citizen-science arm of COSEE and is independently funded.
Source:	NSF
Amount:	\$1.19 million
Total Award Period:	09/01/09 – 08/31/2012
Title:	Exploring Databases: STEM learning and authentic research in the high school classroom
Description:	The UW Institute for Science and Math Education is a partner organization in COSEE-OLC. This Institute project works to integrate contemporary, computationally intensive research in genome sciences into high school curricula. We are leveraging the curriculum work in COSEE OLC as part of this effort.
PI:	Frederick Stahr
Source:	NSF
Amount:	\$133,396

Total Award Period: 09/01/08 – 08/31/11
 Title: COSEE New Collaborations: Toward Broader Ocean Learning Communities Through Field Research Learning
 Description/Impact: This adds capacity to the COSEE-OLC for engaging community members in on-the-water research to learn experientially about ocean science.

PI: Philip Bell
 Source: NSF
 Amount: \$2,463,305
 Total Award Period: 09/01/2010 – 06/30/2013
 Title: Agency in Sustained Problem Based Inquiry: Learning Science Through and As Innovation
 Description: The UW Institute for Science and Math Education is a partner organization in COSEE-OLC. This Institute project focuses on the development of culturally responsive curriculum units in the elementary school focused on environmental topics. We are leveraging the curriculum work in COSEE OLC as part of this effort.

PI: Kathy Sider
 Source: NASA
 Amount: \$499,498
 Total Award Period: 9/11/09
 Title: Exploring Ocean Science from Space
 Description: Helps to build a community of citizens aware of and knowledgeable about the role of science in understanding the ocean and climate change issues.

PI: Kathy Sider
 Source: NOAA
 Amount: \$599,735
 Total Award Period: 8/7/06 – 8/7/11
 Title: Environmental Literacy
 Description: Supports bringing field-based ocean science education to PNW teachers, students and families of students and aligns with COSEE-OLC mission of building communities to learn together about the ocean and educating about how people learn and their connection to the ocean.

PIs: Maureen Munn (PI), Philip Bell (Co-PI)
 Lead: Philip Bell
 Source: NSF
 Amount: \$31.6 million
 Total Award Period: 10/01/09 – 01/31/11
 Title: The LIFE Center: Learning in Informal and Formal Environments (Center for Learning and Teaching)

Description: LIFE is an interdisciplinary research center funded through NSF's Science of Learning Center program. The research findings, resources, and personnel associated with LIFE are leveraged in COSEE OLC work. Bell is a Co-Lead of the LIFE center along with 11 other faculty at the University of Washington, Stanford University, and SRI International.

County

PI: Richard Keil
Source: Snohomish County
Amount: \$40,500

Total Award Period: 1/1/10 – 12/31/11

Title: Groundwater Household Chemical Testing for the Snohomish County Septic System Program

Description: SoundCitizen is the citizen-science arm of COSEE and is independently funded. This grant helps us work with local agencies on problems of local interest.

PI: Kathy Sider
Source: King County Conservation District
Amount: \$84,706

Total Award Period: 11/16/2007 – 4/20/10

Title: Beach Naturalist Program

Description: Supports the development of a learning community of marine volunteers who act as marine science interpreters and guides on local beaches throughout the Puget Sound region.

Foundation

PI: Richard Keil
Source: Russell Family Foundation
Amount: \$40,000

Total Award Period: 9/1/10 – 8/31/11

Title: From Shelf to Sound: The Presence of Toxic Chemicals from Household Products in Stormwater, Wastewater and Puget Sound

Description: SoundCitizen is the citizen-science arm of COSEE and is independently funded. This grant helps us work with local agencies on problems of local interest.

Corporate

PI: Philip Bell
Source: Boeing Corp.
Amount: \$125,000

Total Award Period: 01/01/10 – 12/31/11

Title: University-District Collaborative to Develop STEM-focused High School Programs

Description: The UW Institute for Science and Math Education is a partner organization in COSEE-OLC. This Institute project works with the high-poverty school district Highline in the Seattle area to promote project-based curriculum in multiple high schools.

PI: Kathy Sider
 Source: Boeing Corporation
 Amount: \$40,000
 Total Award Period: 9/22/09
 Title: Citizen Science Program
 Description/Impact: Supports the development and implementation of teens as participants in citizen science work in the Puget Sound region through professional development for teachers and hands-on data collection and analysis for teen students.

PI: Kathy Sider
 Source: Boeing Corporation
 Amount: \$30,000
 Total Award Period: 9/22/09
 Title: Beach Naturalist Program
 Description/Impact: Supports the development of a learning community of marine volunteers who act as marine science interpreters and guides on local beaches throughout the Puget Sound region.

COSEE Great Lakes

PI: Robin Goettel
Source: Great Lakes Restoration Initiative US EPA –GLNPO
Amount: \$180,804
Total Award Period: 2010 -
Title: A Comprehensive Regional Public Outreach Campaign on AIS
Description: Builds connections between Aquatic Invasive Species [AIS] scientists and undergraduate students through a university-based AIS Service-Learning course. Integrates the latest research findings into this course, supported in part by COSEE Great Lakes, that incorporates COSEE Great Lakes developed curriculum to teach undergrads and local youth about the biology, spread, impact and control of AIS.

PI: M. A. Martz.
Source: Great Lakes Restoration Initiative, USEPA GLNPO.
Amount: \$530,759.
Total Award Period: 2010
Title: Undo the Great Lakes Chemical Brew: Proper PPCP Disposal.
Description: Connects COSEE-engaged scientists and water quality experts with college students for service learning, targeting members of the public with education about pharmaceuticals and personal care products [PPCPs] as pollutants in the Great Lakes watershed. Uses COSEE methods and the network of educators and scientists developed over the life of the GL Center.

PI: Sandra Rutherford, Kristina Bishop, Rochelle Sturtevant, Donald Scavia, and others.
Source: NSF DUE - Climate Change Education.
Amount: \$993,907.
Total Award Period:
Title: The Great Lakes Climate Change Science and Education Systemic Network (GLCCSESN).
Description: A Phase I Climate Change Education Partnership to integrate the disparate programs and individuals engaged in climate science research, climate literacy research, and climate education activities within the Great Lakes region. A comprehensive, regional focus will link [former] COSEE GL personnel and institutions for improving understanding of climate change and its impact on unique Great Lakes resources and infrastructure.

PI: William J. Edwards
Source: NOAA Environmental Literacy
Amount: \$500,000 requested

Total Award Period: pending [Preproposal invited for full submission]
 Title: Engaging Learners through Environmental Science. NOAA
 Environmental Literacy.
 Description: The PI [a key scientist for COSEE GL programs] will work with the
 Niagara Falls City School District to implement a Teacher Professional
 Development Program for pre- and in-service teachers in grades five
 through eight to engage students in scientific inquiry focused around
 environmental literacy. Professional development delivered by the District
 and University will support integration of environmental sciences and
 NOAA-focused areas of interest (ocean, coastal, Great Lakes, weather,
 and climate sciences and stewardship) into science and other core subjects
 at the elementary level.

PI: R W Fortner
 Source: COSEE CA subcontract
 Amount: \$15,000.
 Total Award Period:
 Title: Collaborative Research: Centers for Ocean Sciences Education Excellence
 – California.
 Description: Developed Great Lakes Literacy Principles parallel to the Ocean Literacy
 principles, through multiple iterations among 80 Great Lakes scientists
 and educators. Produced a brochure and internet site [
<http://www.greatlakesliteracy.net>] to support science and education in the
 region as related to the GLLPs.

PI: R W Fortner
 Source: Ohio Sea Grant
 Amount: \$9990 + \$5048 match.
 Total Award Period:
 Title: Climate Change Curriculum Update.
 Description: To update (with current research information) and revise (with new
 classroom technologies) key curriculum activities for teaching about
 climate change and its likely effects in the Great Lakes region. The
 materials to be updated were developed with the support of NSF in 1993
 and Ohio Sea Grant in 1996.

COSEE Ocean Systems

All listed Grant Awards support ocean education and are thus related to the mission of COSEE-Ocean Systems. Since Fall 2005, OS has received 16 grants related to ocean sciences education from NSF, NASA and Maine Space Grant Consortium, totaling \$1,396,275. COSEE-OS wrote the "Broader Impacts" sections on the Grants listed where the Principal Investigator is not A. deCharon.

PI:	Annette deCharon, University of Maine
Source:	National Aeronautics & Space Administration
Amount:	\$119,351
Total Award Period:	start 4/2010 (for 67 months)
Title:	Education and Outreach for the NASA Aquarius Satellite Mission Increment #6
PI:	Annette deCharon, University of Maine
Source:	National Science Foundation
Amount:	\$159,817
Total Award Period:	start 9/2009 (for 23 months)
Title:	ARRA: Linking Researchers and Graduate Students through COSEE Tools & Services.
PI:	Annette deCharon, University of Maine
Source:	National Science Foundation
Amount:	\$305,603
Total Award Period:	start 9/2009 (for 47 months)
Title:	ARRA: Collaborative Research: Centers for Ocean Sciences Education Excellence
PI:	Annette deCharon, University of Maine
Source:	National Science Foundation
Amount:	\$53,100
Total Award Period:	start 6/2009 (for 59 months)
Title:	The National Coordinating Office - COSEE
Description:	Supporting COSEE web-based activities in the Central Coordinating office.
PI:	Annette deCharon, University of Maine
Source:	National Aeronautics & Space Administration
Amount:	\$108,700
Total Award Period:	start 6/2009 (for 67 months)
Title:	Engaging Diverse Student Perspectives in the Development of Case Studies Yr 2

Description: Funded graduate students who are using COSEE-OS products and practices in their work.

PI: Annette deCharon, University of Maine
Source: National Aeronautics & Space Administration through Maine Space Grant Consortium

Amount: \$59,985

Total Award Period: start 4/2009 (for 23 months)

Title: Engaging Diverse Student Perspectives in the Development of Case Studies Yr 2

Description: Funded graduate students who are using COSEE-OS products and practices in their work

PI: Annette deCharon, University of Maine
Source: National Aeronautics & Space Administration through Maine Space Grant Consortium

Amount: \$50,000

Total Award Period: start 10/2008 (for 11 months)

Title: Space Grant Year 18 Fellowship at the University of Maine

Description: Funded graduate students who are using COSEE-OS products and practices in their work.

PI: Annette deCharon, University of Maine
Source: National Aeronautics & Space Administration

Amount: \$82,966

Total Award Period: 9/2008 (for 67 months)

Title: Education and Outreach for the NASA Aquarius Satellite Mission Increment #4

Description: Aquarius Education and Public Outreach program uses COSEE-OS products and practices (<http://cosee.umaine.edu/programs/nasaaquarius/>)

PI: Sarah Lindsay, University of Maine

Source: National Science Foundation

Amount: \$16,000

Total Award Period: start 7/2008 (for 36 months)

Title: Ecology of injury in marine sedimentary habitats: Effects of repeated injury on infaunal condition and sediment bioturbation

Description: Broader impacts component of scientific research proposal uses COSEE-OS products and practices (e.g., in COSEE-OS webinars, shared maps, blogs, etc.)

PI: Annette deCharon, University of Maine
Source: National Aeronautics & Space Administration
Amount: \$70,000

2011 COSEE Decadal Review

Total Award Period: Start 2/2008 (for 67 months)
Title: Education and Outreach for the NASA Aquarius Satellite Mission Increment #3
Description: Aquarius Education and Public Outreach program uses COSEE-OS products and practices (<http://cosee.umaine.edu/programs/nasaaquarius/>)

PI: Annette deCharon, University of Maine
Source: National Aeronautics & Space Administration through Maine Space Grant Consortium
Amount: \$59,984
Total Award Period: start 1/2008 (for 11 months)
Title: Engaging Diverse Student Perspectives in the Development of Case Studies for Climate Change
Description: Funded graduate students who are using COSEE-OS products and practices in their work.

PI: Mike Sieracki, Bigelow Laboratory for Ocean Sciences
Source: National Science Foundation through Bigelow Laboratory for Ocean Sciences
Amount: \$75,406
Total Award Period: start 9/2007 (for 35 months)
Title: Interactive Software Systems for Expert Assisted Image Analysis & Classification
Description: Broader impacts component of scientific research proposal uses COSEE-OS products and practices

PI: Pete Jumars, University of Maine
Source: National Science Foundation
Amount: \$11,000
Total Award Period: start 9/2007 (for 48 months)
Title: CMG Collaborative Research: Interactions of Phytoplankton with Dissipative Vortices
Description: Broader impacts component of scientific research proposal uses COSEE-OS products and practices (e.g., in COSEE-OS webinar series, shared maps, blogs, etc.)

PI: Annette deCharon, University of Maine
Source: National Aeronautics & Space Administration
Amount: \$124,933
Total Award Period: start 7/2007 (for 67 months)
Title: Education and Outreach for the NASA Aquarius Satellite Mission Increment #2
Description: Purpose: Aquarius Education and Public Outreach program uses COSEE-OS products and practices (<http://cosee.umaine.edu/programs/nasaaquarius/>)

PI: Annette deCharon, University of Maine
 Source: National Aeronautics & Space Administration
 Amount: \$39,430
 Total Award Period: start 3/2007 (for 67 months)
 Title: Education and Outreach for the NASA Aquarius Satellite Mission Increment #1
 Description: Aquarius Education and Public Outreach program uses COSEE-OS products and practices (<http://cosee.umaine.edu/programs/nasaaquarius/>)

PI: Mary Jane Perry, University of Maine
 Source: National Science Foundation
 Amount: \$60,000
 Total Award Period: 8/2006 – 8/2012
 Title: Collaborative Research: Autonomous Measurements of Carbon Fluxes in the North Atlantic Bloom
 Description: Broader impacts component of scientific research proposal uses COSEE-OS products and practices (e.g., in COSEE-OS webinar series, shared maps, blogs, etc.)

COSEE Pacific Partnerships

Federal

PI: Jan Hodder
Source: NSF-ISE
Amount: \$278,581 (Subaward from UC Berkeley)
Total Award Period: 07/01/09 – 06/30/12
Title: *Communicating Ocean Sciences Informal Education Network (COSIEN)*
Description: *A key activity of COSEE PP is creating and evaluating models for professional development of informal science educators and volunteer communicators, work which made us attractive partners for this grant.*

State

PI: Shawn Rowe is a CO-PI
Source: Oregon Department of Education
Amount: \$900,000
Total Award Period: 008/01/09 - 07/31/12
Title: *Oregon Coast Aquatic and Marine Science Partnership*
Description: *Shawn Rowe is Co-PI on this Title IIB Math Science Partnership grant and COSEE PP's role in developing partnerships with ISEs on the Oregon Coast was a key component listed by reviewers in awarding the grant.*

COSEE Coastal Trends

PI:	Laura Murray
Source:	NSF
Amount:	\$150,000
Total Award Period:	09/2008 - 08/2011
Title:	An Introduction to Our Dynamic Ocean
Description:	This grant will result in the assembly of an entry level Ocean Science course entitled <i>An Introduction to Our Dynamic Ocean</i> from existing lessons designed to utilize real-time and near real-time data and scientific discoveries and address the Ocean Literacy Essential Principles
PI:	T. Gross, W. Ball, D. DiToro, W.M. Kemp, M. Piasecki, Laura Murray, B. Cuker
Source:	NSF
Amount:	\$331,242 (UMCES portion)
Total Award Period:	06/2006 - 06/2009
Title:	A prototype system for multi-disciplinary shared cyberinfrastructure: Chesapeake Bay environmental observatory (CBEO)
Description:	A collaborative effort to combine science, technology, and data interpretation to study the ecology of hypoxia in Chesapeake Bay.
PI:	W. M. Kemp and Laura Murray
Source:	NOAA
Amount:	\$195,322 (UMCES portion)
Total Award Period:	10/2007 - 09/2008
Title:	Modeling Hypoxia and Ecological Responses to Climate and Nutrients.
Description:	A collaborative effort to study the physical and biological aspects of hypoxia in Chesapeake Bay
PI:	E. North, W. C. Boocourt, SY Chou, MR Roman and Laura Murray
Source:	NSF, Ocean Sciences
Amount:	\$13,658 (education portion)
Total Award Period:	11/2004 - 11/2008
Title:	Collaborative Research: Larval transport in a coupled-estuary-shelf system: a modeling study.
Description:	Provided education support for Laura Murray

COSEE Networked Ocean World

PI: Scott Glenn, Janice McDonnell, Annette deCharon, Dwight Coleman, David Overoye.
Source: National Science Foundation
Amount: \$3,500,000
Total Award Period: 2010-2013
Title: Education and Public Engagement Implementing Organization for the Ocean Observing Initiative (OOI).
Description: This grant is pending. This grant will engage the COSEE NOW and COSEE OS teams as an implementing organization for education and public outreach for the Ocean Observing Initiative.

PI: Janice McDonnell
Source: Geraldine R Dodge Foundation
Amount: \$40,000
Total Award Period: 2010
Title: The Marine Activities Resources & Education (MARE) New Jersey Program
Description: This grant allows COSEE NOW to design and deliver inquiry based ocean science learning materials and lessons to New Jersey schools and 4-H educators.

PI: Annette deCharon, Janice McDonnell, Linda Duguay, Cheryl Peach.
Source: National Science Foundation
Amount: \$81,318 (RU portion)
Total Award Period: 2009-2012
Title: *Collaborative Research: Linking Researchers and Graduate Students through COSEE Tools & Services.*
Description: This project is focused on developing and disseminating concept mapping tools developed by COSEE OS for scientists and graduate in an online environment,, delivered through COSEE NOW.

PIs: Adam Kuska & Josh Kohut
Source: National Science Foundation
Amount: \$837,893
Total Award Period: 2009-2013
Title: *Collaborative Research: Modified Circumpolar Deep Water Intrusions as an Iron Source to the Summer Ross Sea Ecosystem.*
Description: J. McDonnell, Chris Parsons, and S. Lichtenwalner (listed as senior staff) responsible for implementation of Education and Public Outreach (EPO) for the project. (EPO budget = \$109, 258 and includes an extensive social

network of teachers, students, and researchers sharing research experiences in the Ross Sea.

PI: Adam Kuska & Josh Kohut
 Source: National Science Foundation
 Amount: \$837,893
 Total Award Period: 2009-2013
 Title: Collaborative Research: Modified Circumpolar Deep Water Intrusions as an Iron Source to the Summer Ross Sea Ecosystem.
 Description: Harold Clark and staff of Liberty Science Center responsible for creation and delivery of Teacher Summer Institute to familiarize 25 middle school earth science teachers with the mission and science so they can prepare their students to participate in nine live audio connections with research scientists aboard ship (Subawardee budget= \$20,000).

PI: Catherine Halversen & Janice McDonnell (subawardee)
 Source: National Science Foundation
 Amount: \$1,729,582
 Total Award Period: 2009-2012
 Title: Communicating Ocean Science Informal Network (COSEIN)
 Description: Award with the Lawrence Hall of Science at the University of California Berkeley for providing professional development for informal educators. Janice serves as the site project leader for development and implementation of COSIA course materials to scientists (Site budget = \$116,281).

PI: Catherine Halversen & Harold Clark (subawardee)
 Source: National Science Foundation
 Amount: \$1,729,582
 Total Award Period: 2009-2012
 Title: Communicating Ocean Science Informal Network (COSEIN)
 Description: Award with the Lawrence Hall of Science at the University of California-Berkeley for providing professional development for informal educators (Site budget= \$120,741)

PI: Bonnie McCay, Dale Haidvogel, Janice McDonnell, Eric Powell, Eileen Hofmann, Roger Mann, and Sylvia Brandt.
 Source: National Science Foundation
 Amount: \$1,500,000
 Total Award Period: 2009-2011
 Title: Collaborative Research: Climate Change and Responses in a Coupled Marine System.
 Description: Project is looking at modeling the response of the surf clam population in response to climate change. It takes an interdisciplinary look at the

economics, science and socio-cultural interactions. Education budget is \$20,000 over three years.

PI: Craig Strang, Catherine Halversen & (Janice McDonnell subawardee)
 Source: National Oceanic and Atmospheric Administration (NOAA)
 Amount: \$748,811
 Total Award Period: 2009-2011
 Title: Development of an Ocean Science Sequence for Grades 6-8
 Description: Competitive award grant with the Lawrence Hall of Science at the University of California – Berkeley to develop and pilot a commercial marine science curriculum for grades 6-8 for Carolina Biological. Rutgers staff is responsible for science content development of curriculum.

PI: Debi Cole., Virginia Powell, Alayne Torretta, & Janice McDonnell.
 Source: USDA
 Amount: \$660,000
 Total Award Period: 2009-2014
 Title: Jersey Roots, Global Reach, Climate Change Education.
 Description: Grant with the Children Youth and Families At-Risk (CYFAR) program. It is a 5-year competitive grant delivering climate change curriculum to an afterschool audience.

PI: Scott Glenn & Oscar Schofield
 Source: NOAA
 Amount: \$5,100,000
 Total Award Period: 2007-2010
 Title: Phased Deployment and Operation of the Mid-Atlantic Regional Coastal Ocean Observing System (MARCOOS).
 Description: Janice McDonnell and Sage Lichtenwalner serve as senior staff focused on developing public web interfaces and public education programs to distribute project findings more broadly.

PI: Scott Glenn, Oscar Schofield, Josh Kohut, & Janice McDonnell.
 Source: Department of Homeland Security
 Amount: \$433,000
 Total Award Period: 2008-2010
 Title: The National Center for Secure and Resilient Maritime Commerce and Coastal Environments (CSR)
 Description: Education portion of the grant is focused on the development scientific data tools and visualizations.

PI: Chad Ripberger, Sharon Kinsey, & Janice McDonnell
 Source: Rutgers Cooperative Extension Community Enhancement Award
 Amount: \$150,000
 Total Award Period: 2008-2011

Title: Urban Youth, STEM, and Quality Out-of-School Environments.
Description: Development of summer research experiences for underserved and underrepresented rising 9th grade New Jersey students from three urban centers

PI: Janice McDonnell
Source: Rutgers University
Amount: \$10,324
Total Award Period: 2010
Title: Improving Linkages between the 4-H Youth Development Program and the School of the Environment and Biological Sciences (SEBS)
Description: Development of science curriculum on hand held devices for out of school 4-H programs.

COSEE Central Coordinating Office

PI: G. Scowcroft and D. Coleman
Source: NOAA
Amount: \$1,800,000
Total Award Period: 2009
Title: Exploring Inner Space: Linking Ocean Scientists with Aquariums.
Description: This COSEE CCO award is in partnership with Sea Education Research and the URI Inner Space Center to develop the infrastructure, hardware, and software that will allow aquariums to receive live and preprogrammed feeds from the U.S. research fleet. The prototype aquariums are COSEE partners, the South Carolina Aquarium and Mystic Aquarium. A model professional development program for informal science educators is also being developed through this award.

PI: G. Scowcroft and G. Ginis
Source: NSF
Amount: \$966,829.
Total Award Period: 2009
Title: Hurricanes: Science and Society
Description: This COSEE CCO award is in partnership with the University of Rhode Island Graduate School of Oceanography and the Louisiana State Museum to develop a comprehensive educational resource and exhibition on hurricane science. Professional development programs for middle and high school educators and informal science educators have been conducted. This project has also developed a model for the engagement of ocean scientists in education and outreach. The National COSEE Network has served as a dissemination vehicle for the materials and as a means for recruiting participating educators.